AMENDMENTS TO THE CLAIMS

1. (Currently Amended) A fuel cell comprising:

an electrolyte membrane; and

a first electrode and a second electrode provided on said electrolyte membrane;

wherein at least one of said first electrode and said second electrode is provided with a gas diffusion layer including a modified cross-sectioned carbon fiber having a recess in a cross-sectional shape thereof; and

wherein said gas diffusion layer is processed with a fluororesin to attain water-repellency.

2. (Cancelled)

3. (Currently Amended) The fuel cell as set forth in Claim ~~2~~ 1, wherein said recess provides said gas diffusion layer with water retention capability.

4. (Original) The fuel cell as set forth in Claim 1, wherein a degree of irregularity of said modified cross-sectioned carbon fiber is not less than 1.3.

5. (Cancelled)

6. (Original) The fuel cell as set forth in Claim 3, wherein a degree of irregularity of said modified cross-sectioned carbon fiber is not less than 1.3.

7. (Original) The fuel cell as set forth in Claim 1, wherein a ratio of a longest distance R against a shortest distance r (R/r) from the center of gravity of a cross-section of said modified cross-sectioned carbon fiber to an outer circumference thereof is not less than 1.2.

8. (Cancelled)

9. (Original) The fuel cell as set forth in Claim 3, wherein a ratio of a longest distance R against a shortest distance r (R/r) from the center of gravity of a cross-section of said modified cross-sectioned carbon fiber to an outer circumference thereof is not less than 1.2.

10. (Original) The fuel cell as set forth in Claim 1, wherein a cross-section of said modified cross-sectioned carbon fiber is one of a cross-shape, an X-shape, a Y-shape, a W-shape, an H-shape, an L-Shape, a star-shape and a multifoil-shape.

11. (Original) The fuel cell as set forth in Claim 1, wherein said gas diffusion layer is constituted essentially of a mixture of said modified cross-sectioned carbon fiber and a circular cross-sectioned carbon fiber.

12. (Cancelled)

13. (Original) The fuel cell as set forth in Claim 3, wherein said gas diffusion layer is constituted essentially of a mixture of said modified cross-sectioned carbon fiber and a circular cross-sectioned carbon fiber.

14. (Original) The fuel cell as set forth in Claim 1, wherein said gas diffusion layer is formed in a woven cloth structure constituted essentially of a weaving yarn solely including said modified cross-sectioned carbon fiber or including said modified cross-sectioned carbon fiber and a circular cross-sectioned carbon fiber in a predetermined proportion.

15. (Cancelled)

16. (Original) The fuel cell as set forth in Claim 3, wherein said gas diffusion layer is formed in a woven cloth structure constituted essentially of a weaving yarn solely including said modified cross-sectioned carbon fiber or including said modified cross-sectioned carbon fiber and a circular cross-sectioned carbon fiber in a predetermined proportion.

17. (Original) The fuel cell as set forth in Claim 1, wherein said gas diffusion layer is formed in a nonwoven cloth or paper structure constituted substantially of said modified cross-sectioned carbon fiber alone or of a mixture in a predetermined proportion of said modified cross-sectioned carbon fiber and a circular cross-sectioned carbon fiber.

18. (Cancelled)

19. (Original) The fuel cell as set forth in Claim 3, wherein said gas diffusion layer is formed in a nonwoven cloth or paper structure constituted substantially of said modified cross-

sectioned carbon fiber alone or of a mixture in a predetermined proportion of said modified cross-sectioned carbon fiber and a circular cross-sectioned carbon fiber.

20. (Cancelled)

21. (Original) The fuel cell as set forth in Claim 1, wherein carbon particles are applied to a surface or filled in an interior portion of said gas diffusion layer.

22. (Original) The fuel cell as set forth in Claim 4, wherein carbon particles are applied to a surface or filled in an interior portion of said gas diffusion layer.

23. (Original) The fuel cell as set forth in Claim 7, wherein carbon particles are applied to a surface or filled in an interior portion of said gas diffusion layer.

24. (Original) The fuel cell as set forth in Claim 11, wherein carbon particles are applied to a surface or filled in an interior portion of said gas diffusion layer.

25. (Original) The fuel cell as set forth in Claim 1, wherein said fuel cell generates electricity in a temperature over 100 degree centigrade.

26. (Original) The fuel cell as set forth in Claim 1, wherein said fuel cell can operate under low-wet condition.

27. (Cancelled)